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CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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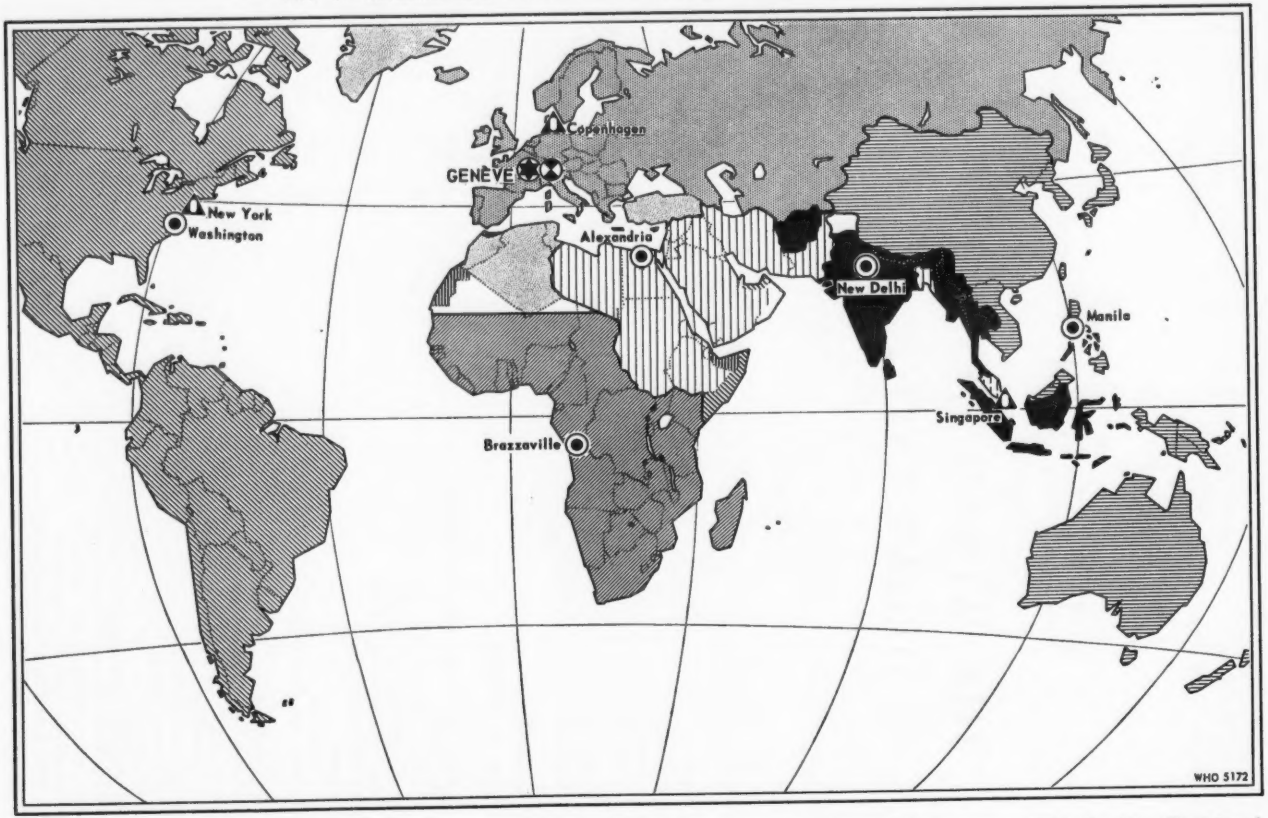
FIG. 1. REGIONS AND OFFICES OF THE WORLD HEALTH ORGANIZATION



WHO HQ
Regional Offices
Temporary Regional Office
Other Offices of the WHO

African Region
Provisionally assigned to African Region
Region of the Americas

South-East Asia Region
European Region
Provisionally assigned to European Region

Eastern Mediterranean Region
Provisionally assigned to Eastern Mediterranean Region
Western Pacific Region

Provisionally assigned to the Western Pacific Region

States and territories not yet assigned to a region

Owing to the small scale of this map, a precise delineation of the boundaries of each region cannot be given.

THE WORK OF WHO: 1954

A Review of the Annual Report of the Director-General

Two themes recur in the Annual Report of the Director-General for 1954 : [1] the need for more trained health personnel, and the basic importance of environmental sanitation. Some idea of the significance of the former may be gained from the fact that about 40% of the year's projects, in all regions, were mainly concerned with education and training. With regard to environmental sanitation, Member governments were urged to assign it high priority in all health programmes and to make amelioration of sanitary conditions a part of most projects, whether for the control of communicable disease or for the improvement of the health of particular population groups, such as mothers and children.

The Organization's work during the year reflects an increasing recognition of its real function—that of technical adviser in the development of national health services and of international co-ordinator of health activities, rather than a source of supplies and equipment and an aid for the temporary alleviation of certain problems.

1954 also brought an increasing trend towards inter-regional health work and more co-operation in inter-country and inter-regional projects, particularly seminars, conferences, and training courses. This trend, too, emphasizes WHO's function as a co-ordinator and an international clearing-house for exchange of scientific information.

Greater stress on research is noted in this year's Report : in the control of communicable diseases, constant study is necessary in order to meet new problems as they arise and to further knowledge of the etiology, prevention, and treatment of specific infections. The Organization is co-ordinating or actively supporting research on a wide range of subjects.

The Director-General, in concluding his introductory statement to the Annual Report, calls attention to the " new challenge which faces the Organization as a result of the modern discoveries of science and medicine ". WHO may, sooner or later, have to assume responsibility for assessing the possible effects on health of the unprecedented interference with natural processes which is now taking place in many parts of the world. It may have to answer questions such as : To what extent is the balance of nature being affected by the wholesale destruction of insects ? What will be the long-term results of the extensive use of antibiotics ? How will the disease patterns of populations be influenced by the present intense efforts to improve standards of environmental sanitation and hygiene ? How important is the contamination of the air, soil, and water caused by the increased use of atomic energy ? Every effort is being made to enable the Organization to assume its new responsibilities and to continue fulfilling its obligations of assuring, through co-operation and mutual aid among countries, health, prosperity, and peace to all mankind.

[1] World Health Organization (1955) *The work of WHO, 1954: annual report of the Director-General to the World Health Assembly and to the United Nations* (*Off. Rec. Wld Hlth Org.*, 59), Geneva. x + 209 pages. Price: 10/–, $2.00, or Sw. fr. 6.— Published in English, French, and Spanish.

Temporary Regional Office
Other Offices of the WHO
to African Region
Region of the Americas
to Eastern Mediterranean Region
Western Pacific Region
Provisionally assigned to European Region
States and territories not yet assigned to a region
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THE REGIONS

Africa

The special conditions of the African Region necessitate extensive surveys and careful planning before health activities are begun. Most WHO programmes in the Region are still in the formative stage. While considerable progress was made in 1954 in campaigns against communicable diseases and in efforts to improve maternal and child health, nutrition, nursing care, and environmental sanitation, the accomplishments represent only a very small fraction of what needs to be done. Among the chief obstacles still to be surmounted is the difficulty of obtaining qualified personnel, for the Regional Office as well as for field projects.

One of the highlights of the activities in the Region in 1954 was a conference on African onchocerciasis, held in October in Léopoldville. This conference, attended by more than thirty experts from many countries and territories in Africa, from countries of Europe and the Americas, and from several non-governmental organizations, did much to elucidate the problem of onchocerciasis in Africa and to stimulate national and international control programmes.

During the year a survey of tuberculosis incidence was continued, and a study of health statistics in the Region was made. Research was sponsored on a number of problems, such as the resistance of body lice to insecticides, which is being investigated by the South African Institute for Medical Research, and yellow fever immunity and epidemiology in Africa, which is being studied at the Virus Research Institute, Entebbe, and at the South African Institute for Medical Research.

For the first time in four years there was an increase in the number of fellowships granted in the Region : 84 in 1954, as compared with 27 in 1953. Although most of the awards were for individual training, fellowships were also granted for group-training programmes organized or assisted by WHO.

With regard to future trends, special attention is to be given to programmes in environmental sanitation and health education and to the training of large numbers of personnel. All disease-control activities are to be based on careful studies of methods to determine which may be most suitable for the Region; and in planning and carrying out all projects, the advice of the regional sociologist will be taken into account, particularly for work in the technically less developed countries.

The Americas

"In the Americas there has been considerable progress in the development of public-health services during recent years. This progress must, however, be assessed in relation to the expanding needs of a population which is increasing rapidly, especially in tropical areas. The population of Latin America now almost equals that of the United States of America and Canada, and its rate of increase is high. A great effort is consequently required to raise the health services to a level which will not only meet present requirements but also provide for continuous expansion commensurate with the growth of future needs. Leadership, energy, economic resources, and trained personnel are required to develop public health services; at the same time it is of utmost importance to continue assistance to governments in special campaigns against communicable diseases susceptible to mass attack."

The health problems of the Region remained essentially the same in 1954 as those

reported in former years. Gastro-intestinal infections and parasitic infestations continued to be a major concern, emphasizing the need for improvements in environmental sanitation.

As in most regions, obtaining and making proper use of trained health personnel hindered progress in some countries. Education and training programmes therefore received considerable attention. As part of a continuing effort, the Regional Office and zone offices, in collaboration with other interested agencies, went ahead with the systematic accumulation of quantitative data about the medical schools in Latin America, on the basis of which fellowships are to be awarded, visiting professors and equipment provided for some schools, and travel grants given to senior officials of selected schools.

Several seminars and training courses were sponsored by WHO during the year in the Region, one a short course on diagnostic methods in brucellosis, held in Mexico City in March, in collaboration with the FAO/WHO Brucellosis Centre and the Mexican Ministry of Health, and another a seminar on sanitary engineering, held in Caracas, Venezuela, in May. A long-term project for improving nursing education in Bolivia went forward during the year, and teaching activities were continued at the tuberculosis training centre in Guayaquil, Ecuador. Five projects for education and training in statistics were also assisted by the Organization.

There are an increasing number of inter-country projects in the Americas. Efforts to rid the continent of *Aëdes aegypti* are still in progress. And, at the XIV Pan American Sanitary Conference, which served as the Regional Committee meeting for the year, a resolution was adopted for the promotion of campaigns against malaria, with the object of eradicating this disease from the Western Hemisphere.

South-East Asia

The funds allocated to health are gradually increasing in most of the countries of South-East Asia, as the following figures indicate :

Country	*Health budget*		*Percentage of total national budget*
			%
Afghanistan	1952-53	13 766 825 afghanis	*
	1953-54	25 742 342 afghanis	*
Burma	1952-53	19 959 000 kyat	3.09
	1953-54	30 883 000 kyat	4.2
Ceylon	1952-53	90 728 527 rupees	9.57
	1953-54	95 463 474 rupees	12.00
Indonesia	1953	297 118 350 rupiahs	1.7
	1954	328 663 000 rupiahs	2.4
Thailand	1953	127 039 249 baht	6.8
	1954	114 483 452 baht	5.6
India	While actual figures are not yet available, there has been a steady rise in health budgets, at both the central and state levels, under India's First Five Year Plan, which provides for large subsidies to be given by the Central Government to the states.		

These increases are in addition to funds for health work provided in the budgets of other ministries, such as, for example, money spent on urban and rural water supplies.

This expansion of health services calls for an adequate administrative structure at all levels. Internationally recruited experts have been, or are to be, attached to the health directorates in Afghanistan, Burma, Ceylon, and Indonesia.

The most important single health problem in South-East Asia is still basic environmental sanitation, and plans have been made for more assistance in sanitary improvements to all the countries of the Region. The problem is complicated by the fact that about 85% of the people of the Region inhabit rural areas. Several approaches are being tried, among them the organization of various kinds of rural health units, often with emphasis on environmental sanitation and on maternal and child health.

* Not available

Much attention is being given by WHO to the training of all categories of medical and paramedical personnel, for which there is great need in the Region.

Co-operation among the numerous international and bilateral health-aid agencies working in the Region is very important, and health co-ordination committees have now been established in all the countries of South-East Asia.

Programmes for the control of communicable diseases, for improving health facilities, and for training health personnel were continued during 1954. A project which came to an end during the year was one in Bangkok, Thailand, in which maternal and child health and nursing were combined. This project is described in some detail in the Annual Report and provides a good example of how integration of health services can be accomplished :

" The objectives of this project (Thailand 6) were: to raise the standard of health of the people, particularly of women and children, by improving and enlarging the existing health services and by providing better facilities for training all types of health personnel engaged in maternal and child health work; and to demonstrate in one urban and one semi-rural area the pattern of community health services in which the preventive, curative and social aspects of care are combined.

" This project had assistance from WHO from September 1951 until 1954. The WHO staff included an officer in maternal and child health, a public health nurse, a sanitarian and an instructor in midwifery. A social worker was provided by the United Nations.

" The work was done in a number of units established under this project. In addition to the traditional maternal and child health activities, such as antenatal and post-natal care and infant care, paediatric, venereal-disease, and tuberculosis clinics were held on the premises. The local health workers and the public were thus shown how medical services could be centralized and unified. Immunizations and health education in the centres and homes also formed part of the services of these units.

" There was close liaison between hospitals, the clinics, and the maternal and child health project. A twenty-four-hour domiciliary midwifery service was established for the first time, and over 800 women were delivered in their homes between June 1952 and May 1954. The integration of school health services into the general health services was begun by including one school in the project.

" Trainees from the provinces who came to Bangkok for refresher courses carried out, on their return home, the methods that had been demonstrated in the projects units.

" During the period, infant mortality in the project area was nearly halved. The demand for all types of medical services has risen, and there is pressure from the public for more centres to be established."

Health activities in South-East Asia are expanding rapidly, and an attempt is being made to integrate all projects into national health programmes and services. Most important is a gradual change in attitude which governments are experiencing, a trend towards emphasis on basic, preventive work, such as sanitary improvements and health education, rather than on building hospitals.

Europe

Despite considerable diversity in health problems, in patterns of health services, and in stages of economic development, the countries of Europe constitute what is probably the most uniform of all the WHO regions. This uniformity makes possible a concentration of personnel and finances on activities of interest to several or all of the countries of the Region. In fact, as the Annual Report points out, " the work of WHO in Europe derives it primary stimulus from the inter-country programmes ".

Among the inter-country programmes in 1954 were seminars on alcoholism, meat hygiene, and public health nursing; conferences on water pollution and water chlorination, immunization, the mental health aspects of the care of the child in hospital, and school health; and training courses of various types and lengths in anaesthesiology, public health administration, rehabilitation of the handicapped, social paediatrics, tuberculosis, and venereal disease control.

The relative importance of certain communicable diseases as health problems is changing in Europe. Smallpox, malaria, and venereal diseases are no longer of major concern. Some countries still need to devote more effort to the prevention of childhood diseases; for example, it has been estimated that the medical care of 60 663 reported cases of diphtheria cost European countries at least two million dollars in 1953. Virus and rickettsial diseases are receiving an increasing amount of attention in Europe, and the laboratory aspects of these diseases are being studied.

Of considerable interest are campaigns against trachoma in certain countries of the Region :

"Although the high epidemicity of trachoma and seasonal acute conjunctivitis in certain areas is recognized as being due to environmental factors, attempts have been made recently to control these infections by mass chemotherapy and by antibiotics. In North Africa, where the two diseases coexist, the control of trachoma depends primarily on that of seasonal conjunctivitis. From pilot projects initiated, with the assistance of WHO and UNICEF, in Morocco (French Zone) and in Tunisia, it is planned to develop operations which will be applicable on as large a scale as economic resources will permit. The first results have been encouraging. During 1954, 400 000 individuals were treated in the two project areas in field campaigns against seasonal conjunctivitis. As effective treatment of trachoma in the early school years eliminates a source of infection and minimizes the risk of late complications of the disease, resulting in blindness, a programme of systematic treatment of trachomatous children is being introduced into the schools; approximately 50 000 received antibiotic treatment in 1954. Modified projects were planned, with technical advice from WHO, for Spain, where seasonal conjunctivitis is less of a problem than in North Africa, and for Yugoslavia, where trachoma exists in a nearly pure form. WHO has made special efforts to standardize methods of recording and evaluating results, in order to facilitate the comparison of data and experience between countries."

The Regional Committee is soon to review the long-term objectives of WHO in Europe. Though this evaluation of present and planned programmes may not involve any substantial changes, it is hoped that it may make possible the initiation of work on some problems of concern to the Region which have not yet been dealt with, such as the public health aspects of certain chronic killing and disabling diseases, the unification of health regulations in Europe (e.g., those on food sanitation), the human factor in traffic accidents, and human relations in expanding industries.

It is expected that in the future the work of WHO in Europe will be increasingly concentrated on the expansion of co-operation in public health work in the Region and the promotion of education and training programmes.

Eastern Mediterranean

WHO's assistance to governments in the Eastern Mediterranean Region is directed towards three main objectives : strengthening national health administrations, controlling communicable diseases, and improving the training of health personnel, particularly by developing training facilities within the Region. There seem to be greater confidence in the work of the Organization and better understanding of its purposes, reflected in the changing nature of requests for aid : governments now make fewer demands for large quantities of supplies and equipment and are more likely to request technical advice and assistance with education and training projects. It is foreseen that the regional programme will probably become less dependent on demonstration and field projects and will be concentrated increasingly on the development of education and training facilities, for both professional and auxiliary workers. In the Eastern Mediterranean Region, the answer to the need for trained health personnel seems more likely to be found in properly trained auxiliaries than in fully-trained professional workers.

FIG. 2. HEALTH DEMONSTRATION PROJECT IN CALIOUB, EGYPT

Team members visit a village to collect data in a survey of enteric diseases.

Seminars are being planned as one of the means of furthering education and training of professional personnel in the Region. Among those for which plans have been made are so-called " travelling seminars ", in which senior public health administrators are to visit countries in the Region to discuss problems of common interest and to study methods of solving them. Participants in the first seminar of this type will visit Egypt, Iraq, and the Sudan.

Efforts are being made to develop integrated health programmes in the Region. In general, there is a gradual trend towards fusing curative and preventive services and towards co-ordinating those for health with other social services.

During 1954 some of the projects in the Region were directed towards the control of malaria, on an inter-country basis (see page 113), tuberculosis, trachoma, and the treponematoses. The health demonstration in Calioub, Egypt, continued to help in the development of a suitable pattern of health services for rural areas of the country. The number of maternal and child health programmes, assisted jointly by WHO and UNICEF, increased greatly.

Attention began to be focused on mental health. Surveys conducted by consultants in Egypt, Iran, Iraq, Jordan, Lebanon, Sudan, and Syria led to the initiation of work on this public health problem in several countries. A WHO consultant is helping the Government of Jordan to develop a " full diagnostic and therapeutic service, occupational therapy and training "—the first project of its kind in the Region. This project also involves revising out-of-date laws and medical procedures relative to the mentally ill, not just in Jordan, but also in most of the countries of the Region, where the attitude of the public concerning mental health needs to be reorientated and where professional staff must be trained. Another WHO consultant is advising on the organization and operation of a school for backward children which is being established in Baghdad.

Environmental sanitation also began to be stressed, becoming " an indispensable component of almost every WHO-assisted health project in the Region ". To help meet the great need for regional training facilities for sanitarians, WHO is assisting in several training schemes in Egypt and Lebanon.

FIG. 3. MALARIA CONTROL IN SARAWAK

Spraying with residual action insecticide at Long San, Sarawak.

Health education of the public is being given due emphasis in efforts to improve environmental sanitation.

Western Pacific

"As in other regions, the work of WHO in the Western Pacific Region has one basic purpose: to strengthen national health services. This can be done only if the supply of trained personnel is adequate and if their services are fully used. The acute shortage of trained personnel in some countries has had a detrimental effect on programmes: WHO staff have sometimes had to work without the promised national counterparts, with the result that the handing over of projects to national health workers has been delayed, or that the appointments of the international staff have ended before counterparts were sufficiently trained to take over the responsibilities. The increasing number of requests from the governments for assistance in education and training work—whether in the form of fellowships, the development of training centres, exchange programmes, or seminars—shows that national health administrations are aware of the seriousness of the problem."

An outstanding feature of 1954 with regard to WHO assistance in education and training activities was a growing interest in exchange programmes between medical schools within and outside the Region. This resulted largely from the success of an exchange of professors arranged between the Johns Hopkins University School of Public Health and the Institute of Hygiene of the University of the Philippines. Three other similar programmes are now being planned, with the Regional Office acting as originator and co-ordinator.

During the year a larger number of fellowships was awarded for study within the Region, particularly in Australia, Japan, New Zealand, and the Philippines : of the 59 fellowships granted, 28 were of this type.

An important seminar on dental health took place in New Zealand in May 1954. Thirty-seven participants from twenty countries in three of the WHO regions attended this seminar, which provided an opportunity for an exchange of views among experts on dental health on some of the important dental problems in different parts of the world.

Two schools of public health were established during the year—one in Korea, as a result of the WHO/UNKRA Health Planning Mission, and the other in Taiwan, where the Institute of Public Health was opened in February after the Institute of Tropical Medicine of the National University had been reorganized.

As in most of the other WHO regions, the fundamental importance of environmental sanitation began to receive recognition in the Western Pacific. The Annual Report describes the situation thus :

" Diseases susceptible of control by known techniques of environmental sanitation are a considerable problem in many countries. Only a few urban communities have water supplies which meet minimum public health standards, and most inhabitants of rural areas use water which, if not obviously contaminated, is certainly suspect. Sanitary disposal of human excreta is practised in only a few cities and towns. In many communities and in almost all rural areas, soil pollution and contamination of drinking-water are evident, and few or no measures are taken to deal with other environmental problems, such as those connected with housing, refuse disposal, rodents, and flies. Every effort has been made to assist governments to define their problems and to study plans for improving environmental sanitation."

Among the health projects in operation during 1954 in the Western Pacific Region were malaria and insect control in Taiwan, bilharziasis control in the Philippines (a pilot project), public health education at the University of Malaya, Singapore, and a demonstration and training project in venereal disease control in Taiwan.

GENERAL REVIEW OF 1954

Following the practice established in the report of the previous year, the Annual Report for 1954 gives a comprehensive picture of the Organization's work during the period covered in the form of a detailed project list, in which are included the project number, the source of funds and the co-operating agencies, the dates of operation, and a description indicating the aim of the project, the type of assistance provided by WHO, the probable duration of assistance, and the work accomplished. The narrative account of the year's activities is therefore a sort of general summary in which certain projects or developments are singled out for particular attention.

The pattern of the Organization's work has now become somewhat fixed. In most instances, the activities of 1954 were a continuation, along already established lines, of what was begun in previous years.

COMMUNICABLE DISEASES

Of special interest in 1954 were the problems which further experience of certain health measures brought to light and the studies which were undertaken to try to solve these problems. The Annual Report points out, for example, that the results of large-scale efforts to prevent communicable diseases cannot be forecast, that clinical and laboratory methods of proved efficacy in individual cases do not always yield the results expected when applied to communities, and that public health measures effective under certain epidemiological conditions may be disappointing in others.

Attempts to solve problems encountered in WHO-assisted field activities have led to further stimulation and co-ordination of research by the Organization. Studies on the absorption of the insecticide into certain types of mud walls are under way to determine why DDT house-spraying has failed in certain areas; investigations of the relationship between strains and types of treponemes and their sensitivity to various antibiotics are being made to find out why the results obtained in different places vary; and laboratory research on vaccines is being conducted to discover why vaccination programmes have not always been satisfactory.

Malaria

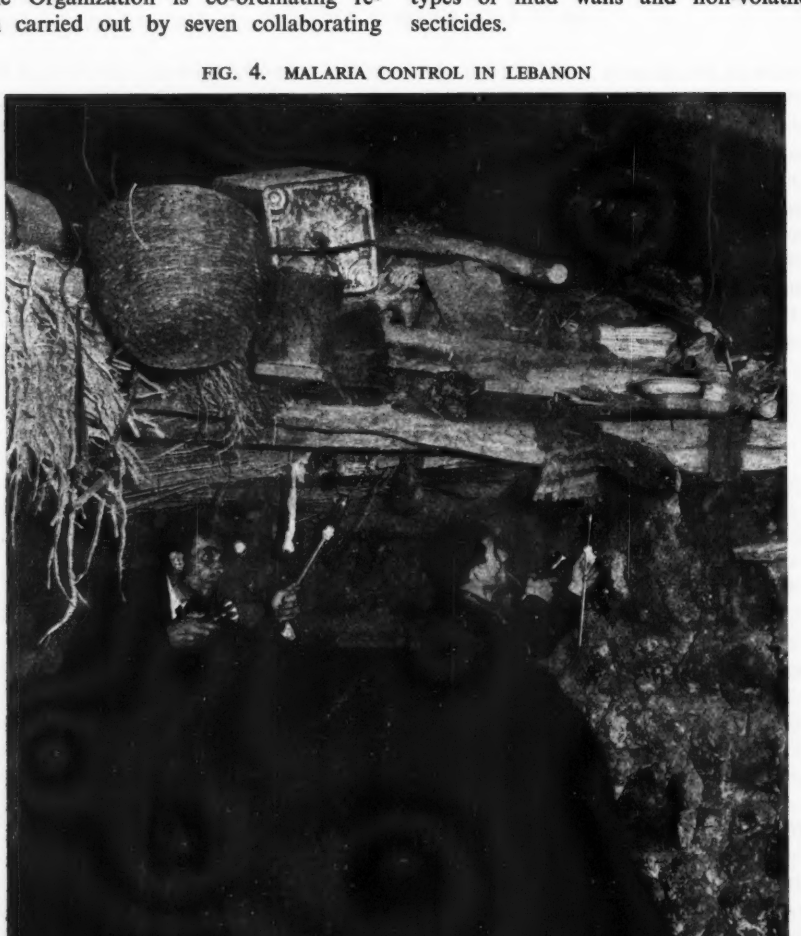
The problem of the development of anopheline resistance to insecticides, which made 1953 a turning point in malaria control, assumed even greater significance in 1954. The resistance to insecticides actually interfered with control efforts in Greece and in Indonesia; numerous cases of the infection were reported in areas which had previously been sprayed with insecticides. Resistance to insecticides of the local vectors in Lebanon and changes in insect behaviour in DDT-sprayed localities in Indonesia were also described by WHO field personnel.

To help meet this problem, WHO supplied standard testing outfits to enable field personnel and various malaria institutes to carry out tests on the susceptibility of local anopheline species to the insecticides being used, so that any changes in susceptibility might be quickly detected and the necessary steps taken. Reference laboratories in

London and in Rome are collaborating in this work.

The Organization is co-ordinating research carried out by seven collaborating institutes in the Americas, in Asia, and in Europe on the reaction between certain types of mud walls and non-volatile insecticides.

FIG. 4. MALARIA CONTROL IN LEBANON



Insect collectors search for mosquitos in a cowstall as part of the entomological work in malaria control in Lebanon.

WHO-assisted malaria-control projects were in operation during the year in Afghanistan, Burma, the Caribbean area, the Dominican Republic, French Cameroons, Indonesia, Iraq, Lebanon, Liberia, Paraguay, the Philippines, Sarawak, Saudi Arabia, Syria, and Taiwan. The projects in Lebanon and the Philippines ended during the year. A number of new projects were initiated—in Nepal, Nigeria, Syria, and East Africa.

A good illustration of WHO aid in inter-country malaria control is the programme which embraces a number of countries in the Eastern Mediterranean Region :

" During the last five years, the Organization has assisted the Governments of Iran, Iraq, Lebanon and Syria to develop malaria control; similar work has been carried out among the Arab refugees, especially in Jordan under the auspices of UNRWA, and assistance has been given to Israel in the form of technical advice and fellowships.

" This group of countries forms a more or less isolated bloc stretching from the eastern shores of the Mediterranean to the desert and mountainous border of Pakistan; it is bounded on the north by mountains and the Caspian Sea, and on the south by desert and the Persian Gulf. Turkey, in the European Region, has close links with this group. Generally speaking, there is free communication among most of these countries, with no great natural barriers, and they have similar malaria-control problems. In ancient times much of this country was irrigated and very fertile and provided food for large populations. With the passage of centuries the irrigation systems have fallen into ruin, malaria has become severe and widespread, and there has generally been extensive depopulation.

" In attacking the problem of malaria in this area, the first step taken jointly by most of the governments and WHO has been to set up projects, with surveys, demonstrations of modern methods of malaria control and the training of staff. In Iran, aid was also given in the establishment of a malaria institute.

" With the knowledge gained in the demonstration projects, control measures were introduced over increasingly large areas. In Lebanon, such measures now extend to almost the entire country. In this effort towards nation-wide control the countries have also been aided by UNICEF and by the United States Foreign Operations Administration (FOA), which has made extensive grants for supplies, equipment and transport. Already some five and a half million people are protected from malaria.

"As control measures within neighbouring countries expand and reach the frontiers, there is an evident need for inter-country co-ordination. Moreover, experience in other regions has shown that if control measures can be established to ensure complete coverage over wide areas for long enough to break the chain of transmission, it will probably in the end be possible to suspend expensive spraying operations without a recrudescence of malaria.

" Accordingly, an inter-regional conference has been planned for representatives of the above-mentioned countries of the Eastern Mediterranean and contiguous countries of Europe, and from other organizations, to discuss common problems and plan a co-ordinated campaign to free the area completely from malaria.

" Much hard work remains to be done, and large financial contributions will be required both from the countries themselves and from the supporting organizations. But the ultimate results, both economically and in terms of human welfare, are incalculable. It is even possible that vast tracts of this area may eventually resume their ancient fertility.

" Thus it is seen that demonstration projects which are developing into country-wide control measures and finally into inter-country programmes may lead, within the foreseeable future, to the elimination of an ancient scourge from a group of countries whose population totals some thirty-two million."

An important development during the year was the decision taken at the XIV Pan American Sanitary Conference to intensify and co-ordinate malaria-control efforts in an effort to eradicate the disease from the Western Hemisphere. Regional malaria control was also discussed at another conference in 1954—the Second Asian Malaria Conference, for the South-East Asia and Western Pacific Regions, held in the Philippines.

The monograph *Terminologie du paludisme*,[2] which is the French equivalent of the previously published *Malaria terminology*, was issued during the year; and a monograph on the chemotherapy of malaria was prepared for publication in 1955. A number of the *Bulletin of the World Health Organization*[3] was devoted solely to the subject of malaria control.

[2] Vaucel, M., Roubaud, E. & Galliard, H. (1954) *Terminologie du paludisme*, Genève (*Organisation Mondiale de la Santé : Série de Monographies*, N° 25)

[3] *Bull. Wld Hlth Org.*, 1954, **11**, 509-890

Treponematoses and venereal infections

In 1954 WHO assistance in the control of endemic treponematoses continued to have a dual purpose : to eliminate such infections as a public health problem, and to strengthen rural health services. Projects which were begun in previous years were maintained : yaws control in Haiti, Indonesia, Liberia, the Philippines, and Thailand; endemic syphilis control in Yugoslavia; and venereal disease control in Afghanistan, Burma, Ecuador, Ethiopia, Iran, Paraguay, Saudi Arabia, and Taiwan. New campaigns against yaws and other non-venereal treponematoses were started in Bechuanaland, Malaya, Nigeria, and Syria and against syphilis in Morocco (French Zone). UNICEF assisted materially in many of the projects.

By the end of the year, more than twenty-five million people had been examined and six million treated in the campaigns in Haiti, Indonesia, Laos, the Philippines, Thailand, and Yugoslavia. The average cost of treatment and examination in these projects was lower than that previously recorded—approximately $1.25 per patient or contact treated with penicillin and $0.12 per person examined, including all national and international expenditures.

Co-ordination of research on the treponematoses is an important part of the Organization's work in this field : close contact is maintained with experts and institutions carrying out research on the use and value of antibiotics other than penicillin, and some investigations of this subject are being made at the International Treponematosis Laboratory Center. The interest in other antibiotics arises from the realization that treponemes may, like many other micro-organisms, eventually develop resistance to penicillin, which is being increasingly used—and misused—throughout the world. New penicillin salts and preparations are also being tested, and it has been found that " effective penicillinaemia can be obtained for a longer period with a lower dosage of these new [amine] salts after a single injection than with PAM ".

Studies on the fundamental nature of treponemes and on the relevant tests—the *Treponema pallidum* immobilization (TPI) test, the *Treponema pallidum* immune adherence (TPIA) test, and the *Treponema pallidum* agglutination (TPA) test—were continued in 1954, with WHO co-operation and co-ordination. The International Treponematosis Laboratory Center and the WHO International Serological Reference Laboratory served as focal points for these and other investigations.

Several publications on venereal diseases and treponematoses were issued by the Organization during the year : a monograph on donovanosis,[4] a number of the *Bulletin* [5] dealing entirely with the reorientation in the treatment of venereal syphilis in the last decade, and an issue of the *Chronicle* [6] which reviewed the present situation with regard to the treponematoses and WHO's role in combating them.

Tuberculosis

"The steep decline in tuberculosis mortality that has been reported in recent years in countries where reliable statistics are available has created the impression that tuberculosis might soon be brought completely under control. But tuberculosis morbidity has not decreased to the same extent and, in countries where within five years the mortality has diminished by about half, the number of reported cases of tuberculosis has dropped little, and the number of known infectious cases has sometimes even increased."

It is as yet impossible to judge what may be the ultimate effects of the increasing use

[4] Rajam, R. V. & Rangiah, P. N. (1954) *Donovanosis (granuloma inguinale, granuloma venereum)*, Geneva (*World Health Organization : Monograph Series*, No. 24)

[5] *Bull. Wld Hlth Org.*, 1954, **10**, 501-702

[6] *Chron. Wld Hlth Org.*, 1954, **8**, 37-114

FIG. 5. YAWS CONTROL IN LAOS

The WHO team leader and his Laotian "counterpart" examine children and demonstrate methods of diagnosis and treatment to field workers.

of chemotherapy in tuberculosis. Already, however, new problems have to be faced in dealing with tuberculosis as a public health problem : mortality figures can no longer be used as an index of the incidence of the disease, and other indices will have to be devised and agreed upon internationally; the prolongation of life in patients seriously afflicted with the infection may result in greater need for public health measures for their rehabilitation and assistance; and the epidemiological significance of widespread chemotherapy will have to be determined. (While a large proportion of cases seem to be rendered non infectious by the drugs, some remain infectious, and others, despite apparently successful treatment, relapse into an infectious state, raising the question of drug resistance.)

Problems such as these are being given serious consideration by WHO. It is urgent, for example, to determine how effective ambulatory chemotherapy may be in areas where institutional facilities are not, and cannot be, adequate to meet the need for isolation and treatment. Carefully controlled field investigations are required to answer questions of this sort.

In the meantime, WHO is continuing to give assistance to governments in tuberculosis control along two main lines : mass BCG vaccination campaigns, and the establishment of tuberculosis teaching and training centres. Projects in one or another of these categories were in operation in twenty-eight countries during 1954. About thirty-two million persons were tested with tuberculin during the year, and about eleven million were given BCG vaccination. The cost of the WHO field staff and of the equipment and supplies for all the BCG campaigns and the cost of the equipment and supplies for some of the training centres were borne entirely by UNICEF.

Gradually the type of WHO assistance given to BCG projects is changing : more attention is being paid to planning and re-examining schemes, and to determining techniques and evaluating results than to the actual carrying-out of mass programmes. In accordance with this development, three regional BCG assessment teams were created during 1954—one for South-East Asia, one for the Western Pacific, and one for the Eastern Mediterranean. The doctors and nurses who comprise these teams have all had special training at the Tuberculosis Research Office, which is acting as technical supervisor of their work and is analysing and interpreting the data which are being gathered. The results of the evaluations already made are most significant.

Along the same lines, a fact-finding pilot study was made during the year in the Sudan in preparation for a mass vaccination campaign—the first study of its kind.

Work at the Tuberculosis Research Office continued to add to knowledge of BCG vaccination and to have practical application in the campaigns being carried out in different countries. The Office's task of preparing and publishing detailed statistical records of the mass BCG campaigns was completed during the year. Reports have now been published on campaigns in sixteen countries and on the campaign conducted among the Palestine refugees. These reports document the tuberculin testing of twenty-two million people and the vaccination of eleven million; they provide a permanent and detailed record of " what was undoubtedly the largest, most uniformly carried out, immunization programme ever attempted ".

The possibility of combining BCG vaccination with other disease-control measures has begun to be envisaged. In 1954, two combined programmes were started, one a study of simultaneous vaccinations, including BCG, in certain population groups, and the other a study of BCG vaccination in combination with penicillin treatment of yaws. The

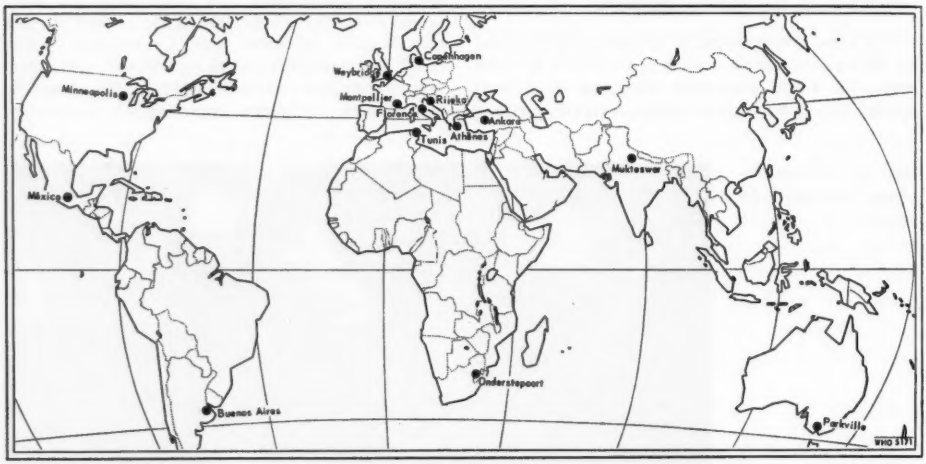
potential significance of this development is suggested in the Annual Report :

" In some countries the BCG campaign has been the first public health activity, particularly in rural areas, in which preventive measures have been applied effectively to large groups of people. Considerable experience has now been gained in mass campaign organization and techniques, and since similar tactics have been used in the control of other communicable diseases—yaws, for example—public health administrators are asking whether several preventive measures cannot be applied at the same time in one mass campaign. Simultaneous vaccination

FIG. 6. TUBERCULOSIS CONTROL IN EGYPT

A WHO nurse checks a reaction to the tuberculin test.

FIG. 7. FAO/WHO BRUCELLOSIS CENTRES



against several diseases would permit the pooling of control activities and reduce costs, and might contribute to the formation of a realistic public health programme."

Veterinary public health and zoonoses

A study on *Brucella melitensis* infection in sheep and goats, initiated in 1953 by FAO with the technical collaboration of WHO, has yielded new and important information which will undoubtedly change certain basic control procedures previously practised. Vaccine trials were begun towards the end of 1954. It is expected that these studies will be continued for several years.

As has been mentioned (page 105), a training course in laboratory methods in the diagnosis of brucellosis was held in March 1954 in Mexico, for physicians, veterinarians, and bacteriologists from the Caribbean region, from Central America, and from Mexico.

The year saw the publication of a much needed monograph on laboratory techniques in rabies,[7] of the second report of the Expert Committee on Rabies,[8] and of a complete number of the *Bulletin*[9] devoted to this disease. Among the papers in the *Bulletin* were reports on results to date of the field demonstrations in rabies control in Israel and Malaya, in which WHO assisted in former years.

The Organization continued to co-ordinate research on rabies, including studies on the efficacy of serum and vaccines in prophylaxis, the local treatment of wounds, and the immunity conferred by different rabies vaccines in animals. Works was begun on the preparation of a provisional international standard hyperimmune serum against rabies, and preliminary steps were taken to determine the possibility of establishing an international standard vaccine to serve as a basis of comparison in tests with locally produced vaccines.

[7] World Health Organization (1954) *Laboratory techniques in rabies*, Geneva (*World Health Organization: Monograph Series*, No. 23)

[8] *Wld Hlth Org. techn. Rep. Ser.*, 1954, **82**

[9] *Bull. Wld Hlth Org.*, 1954, **10**, 703-866

During the year WHO consultants visited Egypt, Israel, Lebanon, Mexico, Portugal, Spain, and Yugoslavia to assist in rabies control.

Other zoonoses on which work, largely of a research type, was continued during 1954 were Q fever, leptospirosis, animal tuberculosis, and hydatidosis.

Considerable attention was given to problems of food hygiene: a WHO/FAO seminar on meat hygiene, organized by the WHO Regional Office for Europe, was held in Copenhagen; a WHO/FAO expert committee on the same subject met towards the end of the year; and the FAO/WHO/UNICEF working group on milk and milk products continued its work, which included surveys in Egypt and in Yugoslavia to advise the Governments on milk programmes (see also page 127).

Virus and rickettsial diseases

WHO's work on virus diseases was "broadened and integrated" during 1954, with particular emphasis being given to the need to bring virological techniques into practical use for diagnosis and control of these diseases.

The influenza laboratories continued their studies on the epidemiology of influenza viruses. The final reports on the 1952-53 epidemic were published. A study of two hundred and twelve viruses isolated by the centres was carried out by the World Influenza Centre and shed light on the epidemiology of the disease. In April, an informal meeting of a group of experts was held to discuss problems connected with influenza vaccines, particularly in Europe.[10]

A programme for the study of poliomyelitis was developed and progress made in the organization of a network of laboratories to carry out the laboratory part of the programme. Among the subjects of research which are being followed carefully by WHO are the development of vaccines and the prophylactic use of gamma-globulin. A monograph on poliomyelitis was in press at the end of the year,[11] and a study of the incidence of poliomyelitis in the world in 1953 was prepared.[12]

Yellow fever surveys were undertaken under the aegis of, or in co-operation with, WHO in several States and territories in Africa—Ethiopia, the Federation of Rhodesia and Nyasaland, the Union of South Africa, South-West Africa, and the Sudan. In the Americas, *Aëdes aegypti* eradication campaigns were continued. The provisions of the International Sanitary Regulations relating to yellow fever were reviewed by the Committee on International Quarantine and recommendations for their revision submitted for consideration by the Eighth World Health Assembly (see page 129).

Investigations of dried smallpox vaccines went forward during 1954. Carefully controlled field trials of two dried vaccines were begun and are expected to last at least two years. A study of smallpox control in the Western Pacific Region was made during the year.

Requests for aid in trachoma control increased in 1954; new field projects were started; and information on the results of the pilot projects in operation was sought by governments, non-governmental organizations, and trachomatologists. "All the current field activities against trachoma form one part of a general plan . . . to test the efficacy of a proposed control method under different epidemiological conditions. . . ." A programme of exchange of information on trachoma was arranged, this including

[10] See *Chron. Wld Hlth Org.*, 1954, **8**, 295.

[11] Debré, R. et al. (1955) *Poliomyelitis*, Geneva (*World Health Organization: Monograph Series*, No. 26)

[12] Freyche, M.-J., Payne, A. M.-M. & Lederrey, C. (1955) *Bull. Wld Hlth Org.* 1955, **12**, (in press)

trachomatologists from Egypt, Iran, Japan, Morocco (French Zone), and Tunisia.

A pilot project in trachoma control in Taiwan is being extended to include the treatment of all schoolchildren, and a survey was made in preparation for this work in 1954. The pilot project in Morocco (French Zone) was successful in preventing the annual epidemic of seasonal conjunctivitis (see page 107). New pilot projects were started in Egypt, Tunisia, and Yugoslavia; and surveys or plans were made for control efforts in India, Indonesia, and Spain.

Other communicable diseases

Onchocerciasis: An expert committee on this subject met during the year, and a conference on African onchocerciasis was held (see page 104).

Leprosy: Activities in leprosy control are increasing in a number of countries, with projects being planned in Indonesia, Iraq, and the Philippines, started in Ceylon and Nigeria, and continued in Burma (after the withdrawal of WHO aid). In addition, a survey was made in Paraguay by the Pan American Sanitary Bureau.

Plague and cholera: WHO assisted with a programme of co-ordination of research on the control of wild rodent plague in a number of countries of the Middle East. A meeting was held in Teheran, at which specialists representing the Governments of Iran, Iraq, Syria, and Turkey exchanged information on the epidemiological conditions prevailing in their countries and planned co-ordinated control campaigns. An important monograph on plague [13] was published during the year, and the first chapters of a monograph on cholera were published in the *Bulletin*.[14]

Bilharziasis: The year's work on bilharziasis was concentrated on stimulating ecological research on the snail vector and encouraging field studies in the application of the newer molluscocides. Campaigns were continued in Egypt, the Philippines, and Syria, and a survey was made in the Sudan. A study group on snail identification and classification met in Paris; its report on African snail vectors was published in the *Technical Report Series*.[15]

FIG. 8. BILHARZIASIS CONTROL IN THE PHILIPPINES

A snail trap is lifted from an irrigation canal.

[13] Pollitzer, R. (1954) *Plague*, Geneva (*World Health Organization: Monograph Series*, No. 22)

[14] *Bull. Wld Hlth Org.*, 1954, **10**, 421-461

[15] *Wld Hlth Org. techn. Rep. Ser.*, 1954, **90**

One of the principal aims of WHO is to strengthen national health services. Three of the methods of approach used to further this aim are: (1) field projects on a single health problem, such as control of a specific disease, with the idea of using the demonstration to aid in developing general health services into which the specific project may eventually be integrated; (2) demonstrations, usually in rural areas, of integrated health services that can be extended to cover the whole country; and (3) stimulation, by various means, of the initiative of individuals, communities, or professional groups in developing their own health services.

FIG. 9. NUTRITION IN INDIA

A student at a maternal and child health centre in India gives instruction in simple nutrition to mothers who have brought their children for their daily ration of milk.

Nutrition

WHO's work in nutrition is concentrated largely on the prevention of protein malnutrition, which is the chief nutritional problem in many countries. In 1954 the Organization continued to stimulate and co-ordinate activities on this problem and to assist centres engaged in the study of plant proteins in relation to their use for the young child. It also took a first step in a programme for preventing protein malnutrition by improved education in nutrition: a sociologist was sent to a country in South-East Asia to inquire into living conditions of people among whom this type of malnutrition is common although the people are not in the poorest economic circumstances.

During the year WHO made a further study of the prevalence and prevention of pellagra. Consultants were sent by the regional offices to countries in the European and Eastern Mediterranean Regions and to Basutoland and Southern Rhodesia. A consultant on the chemical and engineering aspects of salt iodization visited countries in Latin America to advise on the development of plans to control endemic goitre.

Mental health

As in previous years, international seminars were a particularly successful part of the Organization's mental health programme in 1954. A third seminar on alcoholism was held, in the Netherlands; a regional study group on the relationship between paediatrics and child psychiatry in the work of children's hospitals met in Stockholm; and a second meeting of the Study Group on the Psychobiological Development of Child was held.

Assistance to individual countries was continued. Short-term consultants visited Iran, Iraq, and Malaya; a child psychologist was recruited for the Child Mental Hygiene Unit in Bangkok, Thailand; and teachers in psychiatric nursing and in electro-physiology and neurology were recruited for the All-India Institute of Mental Health in Bangalore, India. A mental health programme was begun in the Eastern Mediterranean Region(see page 108).

Maternal and child health

"Shortage of trained personnel and administrators is one of the main handicaps to the development of public health and medical services to meet the special needs of mothers and children. Assistance from WHO, in collaboration with UNICEF, has therefore been directed mainly towards helping governments to develop their training programmes for both professional and auxiliary personnel. During the year, UNICEF/WHO teams were provided to work with national counterpart staff in demonstration and training projects in Ceylon, India, Jordan, Libya, and Turkey. Similar assistance was continued in twenty other demonstration and training centres in sixteen countries. In seven of them the teams were withdrawn after they had completed their assignments, and the national staff assumed full responsibility for the programme."

Comprehensive programmes for co-ordinating and expanding health services for mothers and children and for improving the basic training of workers in this field were initiated in a number of states of India, with WHO and UNICEF assistance. Also with aid from these two agencies, the Government of India is expanding the maternal and child health department at the All-India Institute of Hygiene and Public Health, in Calcutta, to provide post-graduate training.

A study of paediatric education, sponsored jointly by WHO and the International Paediatric Association, was continued during the year in most of the countries of Europe and was extended to cover Australia and New Zealand.

FIG. 10. MATERNAL AND CHILD HEALTH IN THAILAND

A nurse-midwife and a student midwife from a maternal and child health centre in Thailand give post-natal care after a difficult confinement.

Special attention was again given to school health programmes and services. A European conference on school health services was held. In a number of countries (Burma, Cambodia, Hong Kong, India, Indonesia, Libya, Pakistan, and Taiwan) particular efforts are being made by the national health administrations to promote health programmes for school-age children as part of general child health services.

WHO continued to help several countries in developing services for handicapped children. (For an account of the project for the rehabilitation of crippled children in Israel, see page 124.) Consultants were sent to Austria, Greece, Italy, and Japan.

Nursing

In 1954 WHO assistance was continued in seventeen schools of nursing and was given

FIG. 11. NURSES' TRAINING IN BRUNEI

Practice in a ward.

for the first time to five others. Students in Cambodia, Nepal, and North Borneo had their first opportunity to enrol in recognized nursing courses in their own country. The Organization provided nine countries with nurse-midwives to organize and give basic courses of midwifery training, and continued to help with the first courses for public health nurses in Indonesia, Malaya, and Thailand.

WHO-assisted training programmes prepare auxiliary workers as well as nurses, midwives, and nurse instructors. Courses are being adapted to the needs of individual countries: in one, WHO aid is being given in training the " health visitor ", who, after a one-year course, is able to give instruction on health matters; in another, longer courses, which include more instruction in nursing and midwifery, are being given to " community health visitors ". For nursing education of a more advanced type, courses at a college level are being made possible in some countries: a Regional College of Nursing has been established in association with the University of Alexandria to serve the Eastern Mediterranean Region; and in the Western Pacific, WHO is helping to establish a university course for nurses at the National Taiwan University.

Two seminars on nursing were held during 1954, one for midwives, in Lebanon, and the other for nurses, in Istanbul.

The Annual Report calls attention to certain important developments in nursing education and services:

> " In the national nursing programmes with which WHO is assisting, certain trends are noticeable, of which the following are the most significant: long-term programmes are being planned more carefully; there is a greater readiness to experiment in methods and techniques in order to find those that are most suitable to the particular situation; the close interdependence of nursing education and nursing service is being recognized more fully; and, finally, auxiliary personnel are being more widely accepted as members of the health team."

Health education of the public

In 1954 WHO assisted twenty-five governments in planning and developing local and national health education services as an integral part of health programmes. This assistance took the form of assigning personnel to demonstration and training programmes and of co-operating with Member

States in special health education efforts. The importance of cultural factors in health education was taken into consideration: three full-time cultural anthropologists continued to assist health administrations and health workers with field studies, training projects, and the planning of educational aspects of health programmes.

Largely as a result of interest aroused by regional conferences on health education (e.g., in Mexico and in the United Kingdom in 1953) national seminars on the subject were organized in six countries.

The Organization co-operated with the Government of India in preparing courses on health education at the All-India Institute of Hygiene and Public Health. WHO's assistance in health education at the University of Malaya Singapore, ended in July 1954; but the work is being continued under the guidance of a trained worker appointed by the Government. A consultant assisted in a health education training course for public health officers at the School of Public Health in Turkey.

Health education activities were part of WHO's work with the Palestine refugees; groups of refugees are receiving training in courses which have proved to be very satisfactory.

Social and occupational health

To meet more adequately the needs of the wide range of subjects included under the heading of social and occupational health, the WHO expert advisory panel on this subject was replaced during 1954 by four panels: one on the organization of medical care, one on occupational health, one on chronic degenerative diseases, and one on rehabilitation. The immediate concern of the first is hospital planning and administration; of the second, the hygiene of seafarers; of the third, rheumatic and cardiovascular diseases; and of the fourth, prosthetics.

WHO continued its assistance to certain governments on various aspects of hospital planning and administration—e.g., a project for reorganizing medical store management in Ceylon, and a project in Turkey on hospital construction and administration. A monograph *L'hôpital rural*[16] was published in French; an English edition is in preparation.

WHO's work in occupational health has two main concerns: stimulating the interest of national administrations and the medical profession in problems of occupational health, and training personnel for industrial health services. For the latter purpose, occupational health institutes are being established in various parts of the world, starting with Egypt, Indonesia, and India.

A professor in industrial hygiene and physiology whom the Organization provided for the All-India Institute of Hygiene and Public Health in Calcutta finished his assignment during the year. His work laid the foundations for a permanent centre for teaching and research.

A report on the development of occupational health services was completed by a WHO consultant.

At the request of the Executive Board, the Organization started a study of measures for protecting workers and the general population against X-rays and radiation from radioactive isotopes. Member States were asked for information on relevant national legislation and regulations.

Aid in rehabilitation activities was continued. A consultant group on prosthetics was convened. In the field, the Organization assisted in projects for physically disabled adults and children in Greece, India, Israel, Italy, and Japan. The programme in Israel is one illustration of how WHO helps in work of this kind:

" In 1951 Israel suffered from a severe epidemic of poliomyelitis, which was followed by recrudescences

[16] Bridgman, R. F. (1954) *L'hôpital rural*, Genève (*Organisation Mondiale de la Santé : Série de Monographies* N° 21)

FIG. 12. REHABILITATION OF PHYSICALLY HANDICAPPED CHILDREN IN GREECE

A WHO physiotherapist works with a patient at a school for handicapped children in Athens, run by the Hellenic Society.

of the disease in succeeding years. These outbreaks were characterized by an abnormally high incidence of cases among children under one year of age and by a very high percentage of residual paralysis; the total number of cases of paralysis was estimated at some 1500 by the end of 1953. In addition, there was a considerable influx of post-poliomyelitis cases among immigrants.

" To deal with this serious problem Israel had only approximately twenty trained physiotherapists and an inadequate number of unqualified workers trained only by apprenticeship. There was no school of physiotherapy.

" In May 1951 the Government asked WHO for assistance in establishing a rehabilitation centre for physically handicapped children and a national school of physiotherapy. In 1953, WHO provided a physiotherapist. Equipment, including raw materials for the manufacture of prosthetic appliances, was supplied by UNICEF (Israel 8). The National School of Physiotherapists was opened in December 1953 at the Government Hospital in Sarafand, with seventeen students, and a three-year course was started in accordance with the specifications of the World Confederation for Physical Therapy.

" The project developed along lines which had not been foreseen but which were dictated and justified by circumstances. The number of trained physiotherapists was so very small in relation to the large number of paralysed children that it was found equally impossible to keep the children indefinitely in hospital, to deal with them as out-patients in hospitals (because of difficulties of transport), to open physiotherapy clinics in outlying districts, or to arrange for domiciliary treatment. The solution adopted was a scheme of simplified and standardized treatment to be carried out at home by the parents under the supervision of public health nurses, who receive special training for that purpose.

"Another interesting development was the extension of the training to include the care of rheumatic cases, chronic nervous diseases, surgical cases, and pre-natal and post-natal cases, as well as the rehabilitation of the aged.

" The rehabilitation centre, also in Sarafand, was slower in developing, but the buildings are now completed, and comprise a fully equipped gymnasium, a hydro-therapeutic unit, and an occupational therapy department. Two wards opened in July took in forty-one post-poliomyelitis cases, while the out-patient department is dealing with both post-poliomyelitis and other orthopaedic surgical cases.

" The orthopaedic workshop is to be developed to supply and modify all the appliances required."

Dental health

WHO began to be actively interested in dental health in 1954. A consultant group was convened to review the main dental health problems and to advise the Director-General on the lines along which a WHO programme might be developed.

A dental health seminar was organized by the Organization in New Zealand; this seminar was attended by thirty-seven participants from three of the WHO regions.

Health work among the Palestine refugees

The Seventh World Health Assembly extended the 1950 agreement with the United Nations Relief and Works Agency for Palestine Refugees in the Near East to 30 June 1955. Accordingly, the Organization has continued to plan and direct health activities among the refugees. In 1954 a health educator was added to the staff already serving in the camps—i.e., a full-time medical officer, a malariologist, a public health engineer, and consultants.

The general health of the refugees remained good throughout the year, and the nutritional level was substantially the same as in 1953. As in the past, immunizations were given and antimalaria operations were continued. Considerable progress was made in sanitary improvements and in adding to hospital facilities. Nine new clinics were added, making a total of ninety to serve the refugees, with more than two thousand hospital beds available for treatment.

A school health service was started at the beginning of the 1954-55 scholastic year. Six health teams are proportionately distributed throughout the various countries to care for the 110 000 refugee children being educated in the Agency's schools.

The training of selected refugees as auxiliary medical workers was continued. Courses were conducted for nurses (general, public health, mental health, and tuberculosis), malaria inspectors, laboratory technicians, assistant pharmacists, sanitary inspectors, medical orderlies, and midwives, a total of 204 refugees receiving training during the year.

ENVIRONMENTAL SANITATION

In 1954 WHO continued to give advisory services on environmental sanitation to countries and to make improvement of sanitary conditions " an integral part of its work on other more specialized public health problems, particularly in the control of communicable diseases and the organization of public health services ". Member States were urged to give prominence to sanitation in their health programmes.

Among the general problems to be dealt with are :

" (1) the disposal of sewage, excreta and refuse in a safe and practical manner, both from communities and, more pressingly, from rural households; (2) the development of supplies of safe and suitable drinking-water; (3) the supply of uncontaminated milk and other food, which involves suitable provisions for cleanliness in processing, storing, handling, preparing and serving; (4) vector control, including the specification, handling and use of insecticides, rodenticides and molluscocides and the equipment or methods for their application; (5) the health aspects of housing and town and country planning; and (6) the protection of industrial workers and the general public from atmospheric pollution or unhealthy industrial environment."

Efforts are hampered by a scarcity of qualified personnel in sanitation, and stress is therefore being laid on the training of sanitary engineers and other workers. For example, two instructors are being recruited to organize courses in sanitary engineering in Egypt and India; seminars on sanitary engineering were held in Central and South America during 1954; and WHO is helping to extend the teaching of sanitation in medical schools.

The importance of qualified personnel in promoting environmental sanitation work is shown in the Annual Report :

" The role that trained and experienced people can play in improving environmental sanitation in countries is illustrated by the great influence that even a single consultant has been shown to have on national programmes. This influence has been particularly apparent in Burma, Ceylon, and Indonesia where the Governments, on the basis of recommendations of an adviser from Headquarters, are starting in 1955 large projects for the organization of sanitation services and programmes for sanitation work. WHO is assisting with similar programmes in North Borneo and Taiwan—also resulting from the advice of consultants."

The Organization is preparing manuals on sanitation problems, such as rural water supply, excreta disposal in rural areas, and refuse disposal, including the production and use of compost.

During the year a world-wide survey of current practices in the sanitary examination of water and of standards of drinking-water quality was continued. Information provided by seventy-one countries has been collected, analysed, and distributed through the regional offices for discussion by regional groups. Work on milk sanitation went forward, the Organization collaborating with FAO and UNICEF in solving relevant problems, such as advising on milk legislation which will be suitable for countries in different stages of " milk technology ".

Studies on vector control have dealt with many problems, specifically the resistance of lice to DDT and other insecticides, the toxicity of insecticides to man, and the effects of tropical storage on the physical characteristics of insecticide formulations. It has already been shown that there are resistant strains of lice in Egypt, Ethiopia, and South Africa. The Expert Committee on Insecticides, at its fifth session, held during the year at Caracas, Venezuela, for the first time included in its report specifications for a body-dusting powder to be used against lice which are resistant to chlorinated hydrocarbons.

The Organization's ultimate aim in its environmental sanitation programme is expressed thus in the Report :

" In the future, it is expected that WHO will be able greatly to advance its aims by continuing to assist governments to plan and develop effective services in urban and rural sanitation and to integrate these services into their expanding health organization."

EDUCATION AND TRAINING

The two main aspects of WHO's work in education and training are " assistance to countries in solving their own training problems, and promotion of certain principles in education which have emerged from international studies or are favoured by recent trends and experience ". The chief components of its programme in this domain are the award of fellowships, the exchange of information, and the provision of visiting teaching personnel, teaching supplies, and advice.

In some instances WHO supports institutions or training courses which are organized or maintained by several countries, such as a regional college for advanced nursing education in Egypt, the Inter-American Centre of Biostatistics in Chile, and public health training courses for the Scandinavian countries. Assistance is given in international courses on child health, statistics, environmental sanitation, anaesthesiology, nursing, and health education, among other subjects. Another useful type of activity is the sponsorship of seminars and conferences.

The Organization is undertaking an analysis of medical education on a regional basis, with suggestions for future develop-

ments. Such a study has been made for South-East Asia,[17] and this is being followed by analyses and recommendations for individual countries in the Region.

Fellowships

Since the inception of the fellowships programme in 1947, WHO has awarded 4416 fellowships; 667 of these were awarded in 1954. A high proportion of the fellows were placed in their own region in 1954—68% of the total. This has the double advantage of saving travel expenditure and of enabling fellows to study under conditions similar to those in their own countries, making adaptation of the acquired knowledge to the home environment easier. A number of fellowships were awarded for group-training programmes (courses, etc.) organized or assisted by WHO—22% of the total.

In 1954 WHO fellows studied in seventy-two countries, about four-fifths of them being placed in the United Kingdom of Great Britain and Northern Ireland, France, the USA, Sweden, Netherlands, Denmark, Chile, Switzerland, Egypt, Norway, India, Turkey, Italy, Federal Republic of Germany, Finland, Lebanon, and Canada. Most of the fellowships were granted for studies in public health organization and allied services: public health administration, 17%; sanitation, 7%; nursing, 7%; maternal and child health, 7%; and other more specialized health services, 16%. Control of communicable diseases accounted for 33%; the remainder were in medical education, basic medical sciences, and various aspects of clinical medicine.

Exchange of scientific information

"The exchange of scientific information is a prominent feature of virtually all the technical activities of WHO. It naturally develops whenever the Organization establishes international scientific contacts in the course of its routine functions; but it is more actively promoted by specifically designed projects, such as the various kinds of scientific meetings being organized on an increasing number of subjects. The primary purpose of exchanging scientific information may differ in particular instances: sometimes such exchange may aim at increasing the available body of scientific knowledge; sometimes it may aim at specific improvements in public health practice and the care of the sick; again, it may serve as an essential feature of medical education aimed at improving the standards of academic teaching staffs."

Among the specific projects in which the Organization assisted in 1954 was an exchange of research workers on trachoma (see page 119); on research on cancer of the liver in Africa, being conducted concurrently but independently at the Institut des Hautes Etudes de Dakar and at the University of Witwatersrand, Johannesburg; and on relapsing fever spirochaetes, a co-operative undertaking of the Instituts Pasteur of Tunis and Addis Ababa. WHO also initiated the establishment of a microfilm reference service for the Eastern Mediterranean Region in the library of the American University of Beirut and gave support to, or co-operated with, various international congresses of medical sciences.

Assistance to educational institutions

Although it is difficult to recruit suitable professors for short-time assignments in other countries, WHO is drawing up a roster of persons who are both well qualified and prepared to accept posts outside their own countries. In this task the Organization is maintaining liaison with UNESCO, each putting its lists of potential candidates at the disposal of the other.

During 1954 about thirty teachers provided by WHO were working in medical training institutions in many countries. Seven of them began duty during the year: one in Afghanistan (in physiology), one in Burma (in the training of auxiliary personnel), two in Ethiopia (in

[17] See *Chron. Wld Hlth Org.*, 1954, **8**, 298.

the training of auxiliary personnel and in sanitation), two in India (in maternal and child health and social medicine), and one in Indonesia (in paediatrics).

Information was collected for a second edition of the *World Directory of Medical Schools*; and inventories of apparatus and materials for the undergraduate teaching of certain of the basic medical sciences were prepared, for publication by UNESCO.

SERVICES IN EPIDEMIOLOGY AND HEALTH STATISTICS

International Sanitary Regulations

The second year of application of the International Sanitary Regulations was completed on 1 October 1954. The position with regard to acceptance of the Regulations and to their functioning appears to be satisfactory. The Annual Report describes the situation thus :

" Health administrations seem to be finding that, except for the provisions relating to yellow fever, the Regulations are fitting without great difficulty into their quarantine organizations, and that most of the problems that arise are being satisfactorily settled on a national basis by change in legislation, or, when a problem touches more than one country, by negotiation and discussion leading to an agreement between the countries concerned."

The Seventh World Health Assembly, following examination of the first report of the Committee on International Quarantine, took a number of decisions and made recommendations which will solve many of the difficulties which have been experienced in the application of the Regulations. A second meeting of the Committee took place towards the end of 1954; and, among other problems, the yellow fever provisions of the Regulations were discussed. A draft text to replace the existing provisions will be submitted to the Eighth World Health Assembly, which will consider these and other recommendations of the Committee.

As the Annual Report states, " There is good reason to hope that the International Sanitary Regulations will eventually operate on a truly world-wide basis ".

Epidemiological and statistical information

The Organization constantly reviews its epidemiological services and introduces changes, as necessary, to improve their efficiency in disseminating information. However, much depends on national health administrations, which must regularly send the needed information to WHO. There has been an improvement in the regularity of the returns and reports sent to the Organization, but the position is not yet entirely satisfactory.

Epidemiological radio bulletins are broadcast daily from Geneva (on eight wave-lengths in English and two in French), weekly from Singapore, twice weekly from Alexandria, and daily over a wide network reaching the Indian Ocean and the Western Pacific. The new epidemiological cable code (CODEPID), which is designed to ensure reliable, safe, and economical telegraphic transmission of official notifications, came into general use on 1 January 1954.

The Organization's statistical services have continued to advise governments, assist in training programmes, and provide counsel for technical units at Headquarters, regional offices, and field consultants. The *Weekly Epidemiological Record* and the *Epidemiological and Vital Statistics Report* have appeared regularly; and two volumes of the *Annual Epidemiological and Vital Statistics*, for 1950 and 1951, were published during the year.

... The double task of providing new standards for therapeutic and other biological substances and of replacing those that are nearing depletion proceeded uninterruptedly during the year.

... International Shigella Centres were established by WHO in Atlanta, Ga., USA, and in London.

... The Spanish edition of the *Pharmacopoea Internationalis* was published in 1954 and sent to governments of Spanish-speaking countries.

... An important development with regard to addiction-producing drugs was the decision taken concerning interpretation of the term " convertible " in so far as WHO's responsibilities are concerned : it was decided by the Seventh World Health Assembly that WHO would consider a substance as " convertible " where the ease of conversion and the yield obtained constitute a risk to public health, and that in cases where there was uncertainty as to whether a substance would fall under this definition, the substance would also be considered as " convertible " rather than as " not convertible ".

... Purchases of medical and other supplies and equipment for WHO projects financed from the regular budget and from Technical Assistance funds amounted to US $420 000 for the year 1 October 1953 to 30 September 1954.

... By the end of 1954, twenty titles had been published in the *Monograph Series*.

... On World Health Day in 1954, the BBC televised a sixty-minute documentary feature programme entitled *World Nurse*, which was estimated to have been seen by approximately four million people in the United Kingdom.

... The Regional Committee for Europe selected, and the Executive Board approved, Copenhagen as permanent site of the Regional Office for Europe.

... In December 1954, the Organization prepared to take part in an international conference on the peaceful uses of atomic energy which is being sponsored by the United Nations. A consultant group of four experts was convened to advise WHO on the role it could play in this domain, supplying the Director-General with a report on the health hazards of atomic energy and on the potential uses of radioactive isotopes in medicine and public health.

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